AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Previously Presented) A method comprising:

identifying a change in a return link signal quality at a gateway for a return link from a terminal communicatively coupled to the gateway through a satellite, said return link being shared by a plurality of terminals having an interference relationship, wherein identifying the change in signal quality comprises identifying a change that has occurred in a signal-to-noise ratio for the return link from the terminal, and interpreting the change in the signal-to-noise ratio as indicating the change in the return link signal quality;

receiving a feedback signal at the terminal, from the gateway, said feedback signal indicating at least one of the return link signal-to-noise ratio as measured at the gateway and the change in the return link signal-to-noise ratio as measured at the gateway; and

adjusting a data rate, at the terminal, for a message sent from the terminal through the return link based on the change in the return link signal quality without changing the interference relationship among the plurality of terminals.

2. (Previously Presented) The method of claim 1 wherein identifying the change and adjusting the data rate are performed substantially at the same time by both of the transmitter of the message and the receiver of the message.

3. (Cancelled).

4. (Previously Presented) The method of claim 2 wherein the return link signal-to-noise ratio includes both thermal noise and interference.

5. (Cancelled).

6. (Previously Presented) The method of claim 2 wherein identifying the change in the return link signal-to-noise ratio comprises:

measuring a forward link signal-to-noise ratio at the terminal for a forward link from the gateway through the satellite to the terminal; and

approximating the return link signal-to-noise ratio at the gateway based on the forward link signal-to-noise ratio.

7. (Previously Presented) The method of claim 2 wherein adjusting the data rate comprises:

reducing the data rate if the return link signal-to-noise ratio has fallen below a first threshold; and

increasing the data rate if the return link signal-to-noise ratio has risen above a second threshold.

8. (Previously Presented) The method of claim 2 wherein adjusting the data rate comprises:

transmitting a bit of the message for a longer duration of time to reduce the data rate; and

transmitting a bit of the message for a shorter duration of time to increase the data rate.

9. (Previously Presented) The method of claim 2 wherein adjusting the data rate comprises adjusting the data rate to one of a set of discrete data-rate-to-carrier-bandwidth ratios.

10. (Original) The method of claim 1 wherein adjusting the data rate comprises:

transmitting a bit of the message for a longer duration of time to reduce the data rate; and

transmitting a bit of the message for a shorter duration of time to increase the data rate.

11. (Original) The method of claim 1 wherein adjusting the data rate comprises:

applying a higher coding rate to bits of the message to increase the data rate; and

applying a lower coding rate to bits of the message to reduce the data rate.

12. (Original) The method of claim 11 wherein adjusting the data rate further comprises:

transmitting a bit of the message for a longer duration of time to further reduce the data rate; and

transmitting a bit of the message for a shorter duration of time to further increase the data rate.

13. (Original) The method of claim 1 wherein adjusting the data rate comprises adjusting the data rate to one of a set of discrete data-rate-to-carrier-bandwidth ratios.

14. (Original) The method of claim 1 wherein said return link comprises a code division multiple access (CDMA) channel.

15. (Original) The method of claim 1 wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames, the method further comprising:

suspending the message if a current messaging time slot in a current time frame expires before the message is complete; and

resuming the message in a subsequent messaging time slot in a subsequent time frame.

16. (Original) The method of claim 15 wherein resuming the message comprises resuming the message at a beginning of the subsequent messaging time slot in the subsequent time frame.

17. (Original) The method of claim 1 wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames, the method further comprising initiating the message at a random point within a particular messaging time slot.

18. (Original) The method of claim 1 wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames, the method further comprising:

determining that the message will span more than a particular number of durations of the messaging time slot; and

transmitting the message beyond an end of a messaging time slot in a particular frame until the message is complete.

19. (Original) The method of claim 18 wherein determining that the message will span more than a particular number of durations of the messaging time slot comprises:

comparing a duration of the message at the current data rate to a length threshold, said length threshold comprising the particular number of durations.

20. (Original) The method of claim 18 wherein determining that the message will span more than a particular number of durations of the messaging time slot comprises:

comparing a current data-rate-to-bandwidth ratio for the message to a threshold data-rate-to-bandwidth ratio.

21. (Previously Presented) Apparatus comprising:

means for identifying a change in a return link signal quality at a gateway for a return link between a terminal and a gateway, said return link being shared by a plurality of terminals having an interference relationship, wherein identifying the change in signal quality comprises identifying a change that has occurred in a signal-to-noise ratio for the return link from the terminal, and interpreting the change in the signal-to-noise ratio as indicating the change in the return link signal quality;

means for receiving a feedback signal at the terminal, from the gateway, said feedback signal indicating at least one of the return link signal-to-noise ratio as measured at the gateway and the change in the return link signal-to-noise ratio as measured at the gateway; and

means for adjusting a data rate, at the terminal, for a message sent from the terminal through the return link based on the change in the return link signal quality without changing the interference relationship among the plurality of terminals.

22. (Cancelled).

23. (Cancelled).

24. (Previously Presented) The apparatus of claim 21 wherein the means for identifying the change in the return link signal-to-noise ratio comprises:

means for measuring a forward link signal-to-noise ratio at the terminal for a forward link from the gateway through the satellite to the terminal; and

means for approximating the return link signal-to-noise ratio at the gateway based on the forward link signal-to-noise ratio.

25. (Previously Presented) The apparatus of claim 21 wherein the means for adjusting the data rate comprises:

means for reducing the data rate if a return link signal-to-noise ratio has fallen below a first threshold; and

means for increasing the data rate if the return link signal-to-noise ratio has risen above a second threshold.

26. (Original) The apparatus of claim 21 wherein the means for adjusting the data rate comprises:

means for transmitting a bit of the message for a longer duration of time to reduce the data rate; and

means for transmitting a bit of the message for a shorter duration of time to increase the data rate.

27. (Original) The apparatus of claim 21 wherein the means for adjusting the data rate comprises:

means for applying a higher coding rate to bits of the message to increase the data rate; and

means for applying a lower coding rate to bits of the message to reduce the data rate.

28. (Original) The apparatus of claim 27 wherein the means for adjusting the data rate further comprises:

means for transmitting a bit of the message for a longer duration of time to further reduce the data rate; and

means for transmitting a bit of the message for a shorter duration of time to further increase the data rate.

29. (Original) The apparatus of claim 21 wherein the means for adjusting the data rate comprises means for adjusting the data rate to one of a set of discrete data-rate-to-carrier-bandwidth ratios.

30. (Original) The apparatus of claim 21 wherein the means for adjusting the data rate comprises:

means for transmitting a bit of the message for a longer duration of time to reduce the data rate; and

means for transmitting a bit of the message for a shorter duration of time to increase the data rate.

31. (Original) The apparatus of claim 21 wherein the means for adjusting the data rate comprises means for adjusting the data rate to one of a set of discrete data-rate-to-carrier-bandwidth ratios.

32. (Original) The apparatus of claim 21 wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames, further comprising:

means for suspending the message if a current messaging time slot in a current time frame expires before the message is complete; and

means for resuming the message in a subsequent messaging time slot in a subsequent time frame.

33. (Original) The apparatus of claim 32 wherein the means for resuming the message comprises means for resuming the message at a beginning of the subsequent messaging time slot in the subsequent time frame.

34. (Original) The apparatus of claim 21 wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames, the apparatus further comprising means for initiating the message at a random point within a particular messaging time slot.

35. (Original) The apparatus of claim 21 wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames, the apparatus further comprising:

means for determining that the message will span more than a particular number of durations of the messaging time slot; and

means for transmitting the message beyond an end of a messaging time slot in a particular frame until the message is complete.

36. (Original) The apparatus of claim 35 wherein the means for determining that the message will span more than a particular number of durations of the messaging time slot comprises:

means for comparing a duration of the message at the current data rate to a length threshold, said length threshold comprising the particular number of durations.

37. (Original) The apparatus of claim 35 wherein the means for determining that the message will span more than a particular number of durations of the messaging time slot comprises:

means for comparing a current data-rate-to-bandwidth ratio for the message to a threshold data-rate-to-bandwidth ratio.

38. (Previously Presented) Apparatus comprising:

a comparator to identify a change in a return link signal quality at a gateway for a return link from a terminal communicatively coupled to the gateway through a satellite, said return link being shared by a plurality of terminals, said plurality of terminals having an interference relationship, wherein identifying the change in signal quality comprises identifying a change that has occurred in a signal-to-noise ratio for the return link from the terminal, and interpreting the change in the signal-to-noise ratio as indicating the change in the return link signal quality; and

a data rate generator to adjust a data rate, at the terminal, for a message sent from the terminal through the return link based on the change in the return link signal quality without changing the interference relationship among the plurality of terminals;

wherein the data rate generator receives a feedback signal, at a terminal feedback input from the gateway, said feedback signal indicating at least one of the return link signal-to-noise ratio as measured at the gateway and the change in the return link signal-to-noise ratio as measured at the gateway.

39. (Cancelled).

40. (Cancelled).

41. (Previously Presented) The apparatus of claim 38 wherein the comparator comprises:

a signal-to-noise detector to measure a forward link signal-to-noise ratio at the terminal for a forward link from the gateway through the satellite to the terminal; and

a logic block to approximate the return link signal-to-noise ratio at the gateway based on the forward link signal-to-noise ratio.

42. (Previously Presented) The apparatus of claim 38 wherein the data rate generator is configured to reduce the data rate if the return link signal-to-noise ratio has fallen below a first threshold, and increase the data rate if the return link signal-to-noise ratio has risen above a second threshold.

43. (Previously Presented) The apparatus of claim 38 wherein the data rate generator is configured to transmit a bit of the message for a longer duration of time to reduce the data rate, and transmit a bit of the message for a shorter duration of time to increase the data rate.

44. (Previously Presented) The apparatus of claim 38 wherein the data rate generator is configured to encode a bit of the message at a higher code rate to reduce the data rate, and encode a bit of the message at a lower code rate to increase the data rate.

45. (Previously Presented) The apparatus of claim 38 wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames, and wherein the data rate generator is configured to suspend the message if a current messaging time slot in a current time frame expires before completion of the message, and resume the message in a subsequent messaging time slot in a subsequent time frame.

46. (Previously Presented) The apparatus of claim 38 wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames, and wherein the data rate generator is configured to determine that the message will span more than a particular number of durations of the messaging time slot, and transmit the message beyond an end of a messaging time slot in a particular frame until completion of the message.

47. (Original) The apparatus of claim 38 wherein the data rate generator comprises:

a threshold comparator to compare a duration of the message at the current data rate to a length threshold, said length threshold comprising the particular number of durations.

48. (Original) The apparatus of claim 38 wherein the data rate generator comprises:

a threshold comparator to compare a current data-rate-to-bandwidth ratio for the message to a threshold data-rate-to-bandwidth ratio.

49. (Previously Presented) A machine readable medium having stored thereon machine executable instructions comprising:

identifying a change in a return link signal quality at a gateway for a return link from a terminal communicatively coupled to the gateway through a satellite, said return link being shared by a plurality of terminals having an interference relationship, wherein identifying the change in signal quality comprises identifying a change that has occurred in a signal-to-noise ratio for the return link from the terminal, and interpreting the change in the signal-to-noise ratio as indicating the change in the return link signal quality;

receiving a feedback signal at the terminal, from the gateway, said feedback signal indicating at least one of the return link signal-to-noise ratio as measured at the gateway and the change in the return link signal-to-noise ratio as measured at the gateway; and

adjusting a data rate, at the terminal, for a message sent from the terminal through the return link based on the change in the return link signal quality without changing the interference relationship among the plurality of terminals.

50. (Cancelled).

51. (Cancelled).

52. (Previously Presented) The machine readable medium of claim 49 wherein the instructions further comprise:

measuring a forward link signal-to-noise ratio at the terminal for a forward link from the gateway through the satellite to the terminal; and

approximating the return link signal-to-noise ratio at the gateway based on the forward link signal-to-noise ratio.

53. (Previously Presented) The machine readable medium of claim 49 wherein the instructions further comprise:

reducing the data rate if the return link signal-to-noise ratio has fallen below a first threshold; and

increasing the data rate if the return link signal-to-noise ratio has risen above a second threshold.

54. (Previously Presented) The machine readable medium of claim 49 wherein the instructions further comprise:

transmitting a bit of the message for a longer duration of time to reduce the data rate; and

transmitting a bit of the message for a shorter duration of time to increase the data rate.

55. (Previously Presented) The machine readable medium of claim 49 wherein the instructions further comprise:

transmitting a bit of the message for a longer duration of time to reduce the data rate; and

transmitting a bit of the message for a shorter duration of time to increase the data rate.

56. (Previously Presented) The machine readable medium of claim 49 wherein the instructions further comprise: adjusting the data rate to one of a set of discrete data-rate-to-carrier-bandwidth ratios.

57. (Previously Presented) The machine readable medium of claim 49 wherein the return link comprises a messaging time slot among a plurality of time slots in each of a series of time frames, and wherein the instructions further comprise:

suspending the message if a current messaging time slot in a current time frame expires before the message is complete; and

resuming the message in a subsequent messaging time slot in a subsequent time frame.

58. (Previously Presented) The machine readable medium of claim 57 wherein the instructions further comprise: resuming the message at a beginning of the subsequent messaging time slot in the subsequent time frame.

59. (Previously Presented) The machine readable medium of claim 49 wherein the instructions further comprise:

determining that the message will span more than a particular number of durations of a messaging time slot in the return link among a plurality of time slots in each of a series of time frames forming the return link; and

transmitting the message beyond an end of a messaging time slot in a particular frame until the message is complete.